
Book Reviews

Ames, B.; Infante, P.; Reitz, R. (eds.): *Ethylene Dichloride: A Potential Health Risk?* Banbury Report 5. Cold Spring Harbor: Cold Spring Harbor Laboratory 1980. 350 pp., 53 figs., 89 tabs. Hard bound \$ 54.00.

Ethylene dichloride (EDC) one of the most highly produced and used organic chemicals in the world, with a total production estimated at 23 million tons a year. Its major use is as an intermediate, particularly in the manufacture of vinyl chloride, but it is also widely used as a halide scavenger in leaded fuels, as a component in fumigants and as a solvent.

In 1978 the U.S. National Cancer Institute (NCI) published results of a long-term animal bioassay of EDC, which consisted of gastric intubation to Osborne-Mendel rats and B6C3F1 mice. A carcinogenic response was found in both species. EDC was also shown to be carcinogenic in mice after repeated skin application (Van Duuren et al. 1979). On the other hand, in 1978 Maltoni et al. completed a long-term exposure of Sprague-Dawley rats and Swiss mice via inhalation in which no carcinogenic effects to EDC were found. These conflicting statements induced the Banbury Center to organize a conference at which the potential carcinogenic risk for humans of EDC and related compounds could be discussed.

The present report is a most comprehensive review on the availability of actual knowledge of the genotoxicity of EDC. It contains the first publication of the negative carcinogenic inhalation test by Maltoni as well as statements about the positive gavage test by Ward (NCI). Although some methodical flaws in the latter study had to be pointed out in the discussion, it is very likely that the discrepancy in responses between the two studies is a result of species differences. Therefore, the necessity exists to confirm this assumption by repeating the inhalation study using the same species studied by NCI. Other papers of the report deal with the evidence of mutagenicity of EDC, the metabolism of 1,2-dihaloethanes, a pharmacokinetic comparison of oral and inhalation exposures, teratogenicity studies in animals, human exposure and medical aspects of EDC in the workplace, and furthermore, production, uses and environmental fate and some other problems related to this chemical. A final evaluation of the health hazards was not reached at this conference. For an estimated 99% of the human population, human risk appears to be low with exposure to

atmospheric EDC. However as an interim and prudent measure while the carcinogenicity of EDC is being further evaluated, occupational exposure should be minimized. Kh. Lohs, Leipzig

Hawkes, J.G.; Lester, R.N.; Skelding, A.D. (eds.): *The Biology and Taxonomy of the Solanaceae*. London: Acad. Press 1979. 738 pp., 133 figs., 96 tabs. Hard bound £ 45.00.

An important plant family has been taken into appropriate account – an international symposium on Solanaceae organized by the staff of the Department of Plant Biology at the University of Birmingham, U.K., and sponsored by the Linnean Society of London and the above named Department, took place in Birmingham in 1976. More than 70 contributors delivered 55 papers which are now available in this voluminous book. The papers are grouped under the following topics: taxonomy and floristics (7 papers, containing a general systematic overview of the family with more than 80 genera, including *Nolana*, by D'Arcy); ethnobotany (3, with an interesting paper by Schultes about the role of the New World hallucinogens); alkaloids (7); flavonoids, terpenes and proteins (5); anatomy and fine structure (4); morphology and morphogenesis (4); floral biology, incompatibility and haploidy (6); biosystematics of genera and sections (9); biosystematics of domesticates (10, especially emphasizing the important crops: potatoes, tomatoes and peppers). As can be seen from this short summary of the contents, specialists from various disciplines presented their ideas and thus the volume provides an experimental and evolutionary basis for a better understanding of the Solanaceae as a first step to a new monographic treatment of the family (Wettstein, 1895, is the last monographer of the family). But there are also gaps in the information documented by the papers, the most striking of which is that there are only 15 contributions concerning problems of the whole family or including more or less greater groups of genera. Nearly all of the other papers deal with the few genera of *Solanum*, *Capsicum*, *Lycopersicon* and *Nicotiana*. From this point of view the volume is especially useful for cultivated plant research. Nevertheless, there is good reason to believe that the contributions will greatly stimulate further work on the whole family of the Solanaceae. K. Hammer, Gatersleben